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A Closer Look at Firm-Specific Advantages
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Internationalization Pathways of Chinese Private Firms:

A Closer Look at Firm-Specific Advantages

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Abstract

Using a unique data set, we explore the internationalization processes of Chinese private sector firms. We show that variations in internationalization of private Chinese firms can be better explained by traditional internationalization theories than by the typical approach proposed in the recent literature that centers on state-created advantages. The firm-specific advantages of productivity, proprietary knowledge, and technology competence explain Chinese private foreign direct investment (FDI) in a similar way as they do typical FDI from western developed countries. Further, firm-specific advantages such as technology leadership, exporting experience, and ability to signal quality to partners abroad can explain differently motivated outward FDI by private Chinese firms. Our results fill an important gap in the literature, where the validity of the existing frameworks for explaining the internationalization of Chinese multinationals is hampered by the conflation of state-sponsored internationalization, knowledge-seeking FDI, and firm-specific advantages.

Key words

Emerging market multinationals; Chinese multinationals; Internationalization

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1. Introduction

The extent to which one might explain emerging market multinationals by drawing on traditional theories of how firms from western developed countries internationalize remains controversial (Hernandez and Guillen, 2018). Taking China as the example, there has been a string of debates, starting with Buckley et al. (2008), about how well the existing international business theories can explain the emergence of Chinese multinationals. This line of discussion, compounded by China's economic heft, leads to the view that the 'Chineseness' of these multinationals is sufficiently distinctive to warrant extensions to the theoretical development of a burgeoning literature on emerging market multinationals (Ramamurti and Hillemann, 2018).

However, the dominant international business theories were shaped by the context of the earlier multinational enterprises, which were products of the developed economies. In contrast, the development of the models relating to emerging market multinationals have been derived by comparing newcomers from the emerging or developing economies with multinationals emanating from western or developed countries (Cuervo-Cazurra, 2012; Ramamurti, 2012). Thus, one challenge for the literature that seeks to understand how emerging market firms make strategic decisions to conduct cross-border investment has to do with the framing of the discussion, which typically over-emphasizes the contextual differences between multinationals (Deng et al., 2020). The lens through which Chinese multinationals, in particular, are examined has largely zoomed in on the government-created advantages enjoyed by many Chinese firms (see *inter alia* Buckley et al., 2008; Luo and Tung, 2007; Ramamurti and Hillemann, 2018).

If the aim is to understand the uniqueness of Chinese multinationals, the majority of which are state-owned, this approach is clearly adequate. However, it has led to an exaggeration in the literature of the role played by country-specific advantages when explaining Chinese multinationals, such that their firm-specific advantages have generally been overlooked (Li et al., 2018). This is despite the fact that foreign direct investment (FDI) by private Chinese multinationals has grown significantly and is

now impossible to ignore. These firms internationalize via FDI to improve their ownership advantages so they can, in their home country, compete with foreign firms from advanced economies. Unfortunately, most of the existing evidence about Chinese private firms accumulating firm-specific advantages to go abroad is primarily based on case studies or small survey data (Yiu et al., 2007), which, although insightful, may not be particularly representative (Yang et al., 2009). Further, firm-specific advantages are usually discussed in fairly broad terms as a simple application of traditional international business theories to the Chinese cases. In reality, the nature of firm-specific advantages may vary in different contexts. An additional gap is the lack of considerations of FDI motivation, prompted by the implicit assumption that outward FDI from China must be either knowledge-seeking or strategic asset-seeking.

The purpose of this paper is to go beyond the focus on Chinese firms' state-created advantages to re-examine how well the traditional internationalization theories explain private Chinese firms' investment abroad. The limited understanding about the private investment from China is a major gap in the literature. Given the lack of government-created advantages for these private firms and the consequent absence of government influence in their operations and strategizing (Gammeltoft et al., 2010), private firms are likely to resemble western firms in terms of how their internationalization decisions are made. We argue that their decision making about outward FDI is based on the firms' own capabilities and strategic plans. Hence, the firm-specific advantages of productivity, proprietary knowledge, and technology competence may well explain these firms' cross-border investment, especially knowledge-seeking outward FDI. Further, we examine context-specific firm characteristics that drive outward investment decision to provide insights on the distinctiveness of the Chinese firms that invest for specific purposes. Finally, incorporating an investment motivation in the modelling framework offers a rare opportunity for unpicking the conflation of state-sponsored internationalization, knowledge-seeking FDI, and firm-specific advantages generally seen in the literature.

This paper makes three main contributions to the existing literature. First, it nuances the argument that emerging market multinationals internationalize without ownership advantages by suggesting that private Chinese firms need firm-specific advantages to internationalize via FDI. These advantages include those suggested by western multinationals theories, such as technologies and economic performance, as well as firm-specific advantages unique to Chinese multinationals. Second, we consider the drivers of different FDI motives to clarify the importance of firm-specific advantages in determining whether a private Chinese firm is capable of seeking knowledge or expanding abroad via FDI. This is something that cannot be explained by aggregate-level factors such as country, industry, or institutional features. We distinguish FDI construction projects from other types of FDI, and build a nuanced explanation of how firms internationalize via FDI by using firm-specific advantages to signal quality to host countries. Third, this study makes extensions to the literature on emerging market multinationals by expanding the boundary of the conceptual framework to incorporate the heterogeneity of export destinations. This much improves the explainability and applicability of the existing theories concerning firm-specific advantages and internationalization in the context of emerging market multinationals.

The remainder of this paper is structured as follows. Section 2 reviews the literature on internationalization theories and empirical studies. Section 3 describes the dataset, presents the empirical model, and establishes the variables. The main findings are reported in Section 4, and Section 5 discusses the results. Section 6 concludes.

2. Understanding Chinese private firms' internationalization process

We take a special interest in private firms from China, which lack the numerous advantages of their state counterparts. Nevertheless, their significant growth in China's outward FDI landscape means they have become impossible to overlook. As can be seen from Figure 1, between 2003, which is when the statistics of outward FDI began to be collected, and 2017, outward FDI from private firms in China grew 36-fold to overtake the state sector investment and dominate China's overall OFDI (MOFCOM,

2003-2018). Despite this scale of private firm presence in the global market, our understanding of the outward FDI emanating from China is still largely colored by research on state-owned investors rather than on these market firms (Yang et al., 2009; Ge and Wang, 2013).

INSERT FIGURE 1 HERE

Traditional internationalization theories, built on the eclectic paradigm (Dunning, 1980), hold that firms' ownership advantages are key to their overseas investment. Indeed, a firm's capability to leverage its advantages and make a success out of internationalization is similarly contingent on its ownership advantages. However, when the theory is applied to Chinese multinationals (and, more broadly, emerging market multinationals), ownership advantages have been primarily considered at country-level rather than at firm-level. For instance, Cuervo-Cazurra et al. (2018) specifically review how the home country affects internationalization via exporting and outward FDI, and they focus on countries' comparative advantages, country-of-origin advantages, and institutional conditions.

According to Rugman and Li (2007) and Rugman (2010), the majority of emerging market multinationals have strong country-specific advantages that emanate from economies of scale in production, low capital or labor costs, and government support for internationalization. However, these firms generally lack firm-specific advantages in terms of marketing and technology development. This argument is used to question the applicability of standard international business theories to the explanation of emerging market multinationals.

Indeed, as Li and Fleury (2020) note in a recent perspective, this argument has been used to foster a collection of alternative narratives that essentially provide a bridge to Dunning's typology of FDI motivation (dating back to Behrman, 1974), rather than to the notion that firm-specific advantages are a necessity for emerging market multinationals. For example, Mathews (2006) suggests a "linkage, leverage, and learning" framework to explain how emerging market multinationals tap into foreign resources to build ownership advantages. The argument is that emerging market firms acquire

resources through international expansion. They then link their internal resources with those of other firms to leverage capacity. This repeated learning process will allow firms to develop ownership advantages over time. A similar argument is made by Luo and Tung (2007) with their springboard perspective. This proposes that outward FDI is a way for firms to quickly obtain strategic assets and overcome domestic constraints. This, in turn, has been linked to the notion of knowledge-seeking, an argument that has been subsumed, if only conceptually, into the fundamental theories of international business (Fosfuri and Motta, 1999; Hashai and Buckley, 2014). Indeed, Narula (2012) has argued that the existing theory is fit for purpose and that, in the absence of firm-specific advantages, the learning described above cannot take place.

As Bhaumik et al. (2010, 2016) point out, comparing emerging market multinationals with traditional western multinationals may provide insight into the challenges faced by the former, but it is not a sufficient basis for exploring internationalization by emerging economies. Indeed, many of the attempts to apply or test these theories have struggled to provide empirical evidence that can cope with the requisite theoretical nuances. For example, analysis that focuses on FDI from a given country where the government pushes for its firms to invest abroad, links internationalization to indicators of market size, labor costs, or the natural resources of host countries. This literature does not examine the motivation of firms undertaking FDI, but rather establishes that, *ceteris paribus*, such firms have a preference for lower costs or bigger markets when conducting outward FDI.

Therefore, despite a voluminous literature on emerging market multinationals, there remains a gap. The dominant paradigm of the analysis of emerging market multinationals has been developed by focusing on comparing emerging market multinationals with their western counterparts, such as can be seen in Ramamurti (2012). We argue that this has led to an overemphasis in the literature on the role of country-specific advantages rather than firm-specific advantages in explaining internationalization. Taken together, these approaches have reinforced the perception that emerging market multinationals “internationalize without advantages”, having been “pushed” by a government

(in our case, China's) that wishes to encourage outward FDI generally and knowledge-seeking FDI in particular (Ramasamy et al., 2012). We seek to unpick this, viewing emerging market firms' FDI as motivated by a range of strategic objectives that have much in common with the objectives that drive the FDI of developed countries.¹

Our proposed framework is therefore developed from Dunning (1980), and based on the argument that internationalization is driven by firm-specific advantages. This is illustrated by Figure 2, which shows the different combinations of firm-specific advantages required to facilitate internationalization. Building on previous attempts to characterize this empirically (Driffield and Munday 2000; Wagner 2007), these are expressed in terms of productivity and proprietary knowledge; firms that possess these firm-specific advantages have the capability to internationalize via exporting. Exporting experience obtained from multiple export destinations, including the advanced economies, encourages firms to conduct FDI. A sub-set of these firms can leverage their knowledge gained from exporting to improve their access to finance. In particular, given the resources required and the requirements regarding absorptive capacity, only firms with high financial performance and technological leadership can conduct knowledge-seeking FDI. We therefore argue that, taken together, the internationalization of private Chinese firms will, unless they have government backing, closely resemble the internationalization of firms from the developed countries. This is because firms that lack government support will find it difficult to obtain finance from their home country's banks, and thus their financial performance must be solid if they are to conduct knowledge-seeking FDI, which is typically both difficult and risky. Additionally, a firm needs to possess prior knowledge in the technological field if it is to internalize knowledge sourced from abroad via knowledge-seeking FDI.

INSERT FIGURE 2 HERE

2.1 Productivity, proprietary knowledge and outward FDI

The traditional literature concerning emerging market FDI has questioned the role of firm-specific advantages in driving FDI, and has instead emphasized the importance of country-specific advantages in the form of, say, economies of scale at home, or government support (Rugman, 2010). We argue, however, that the importance of firm-level heterogeneity is as important to explaining variations in internationalization by Chinese firms as it is for firms from developed economies.

It is our assertion, building on the analysis of Bhaumik et al. (2010) and Bhaumik et al. (2016), that the distinction between Chinese firms and their western counterparts is over-stated and that, as this special issue attests, one can apply to the analysis of Chinese FDI the same understanding that was developed through the analysis of multinationals from the developed economies. We argue therefore that in the context of China, firm-specific characteristics can explain variations in internationalization at the firm level. We further argue that these firm-specific advantages, despite being seldom discussed or understood, are crucial drivers of the internationalization of Chinese private firms. While much of the literature identifies the importance of firm-specific advantages, there is a tendency to examine them through what might be described as an “emerging economy lens”. For example, Cuervo-Cazurra and Genc (2008) identify the experience and capability of an emerging economy firm to deal with government corruption and institutional deficiency as firm-specific advantages that can help emerging market multinationals to invest cross borders into less developed countries.

While some studies indicate that internal competences, such as technology and production efficiency, are important for the development of emerging multinationals (Wei et al., 2014), there is scant evidence linking the work on firm-level heterogeneity to the analysis of the importance of firm-specific advantages in studies of emerging market multinationals. Bhaumik et al. (2010, 2016) make a clear distinction between firm-specific advantages and country-specific advantages as drivers of internationalization. They argue that both are necessary for the international development of emerging market multinationals, with firms’ absorptive capacity being a crucial firm-specific advantage that

enables them to learn from internationalization. We seek to extend this internationalization theory by contrasting the importance of “traditional” firm-specific advantages (i.e., productivity, technological capacity, and resources) with country-specific advantages (i.e., government support). We base our research on theories derived from multinationals from the developed economies that generally point to a robust correlation between firm performance, exporting, and multinationality (Yang and Driffield, 2012).

In developing this argument, we also take into account the literature that emphasizes the motives of Chinese firms for conducting FDI (Yoo and Reimann, 2017). The literature typically highlights the need for emerging market multinationals to conduct knowledge-seeking FDI to develop or augment their existing firm-specific advantages. However, as the literature on technology-sourcing demonstrates, for this strategy to be effective requires both the assimilation of knowledge in the home country and a transfer of technology from the foreign affiliate to the parent. As Mudambi and Navarra (2004) and Driffield et al. (2016) demonstrate, this requires sufficient firm-specific knowledge to assimilate the external knowledge and translate it into performance growth. Equally, other forms of FDI that may be associated with Chinese firms (for example, market-seeking FDI aimed at securing richer if not larger markets, or resource-seeking FDI) also suggest a degree of firm-specific advantage, whether in terms of efficiency, technology, an identifiable brand, or in the case of resource-seeking, sufficient cash flow to fund capital-intensive investments (Lu et al., 2011).

In sum, although we do not deny that private Chinese firms face considerable challenges when they set out to invest abroad, we argue that these can be considered within the traditional frameworks, especially when the aim is to explain which firms internationalize via FDI and which do not.

Hypothesis 1: Firm-specific advantages in the form of productivity or proprietary knowledge increase the propensity for firms to conduct FDI, compared with country-specific advantages such as receiving government support.

2.2 Exporting experience and outward FDI

Building on Hypothesis 1 that postulates that the firm-specific advantages of productivity and proprietary knowledge play a role in driving outward FDI, we next consider the firm's exporting experience as a driver. We argue that exporting experience is particularly relevant for Chinese firms, given that its economic development has been founded on an export-led strategy for growth. What we focus upon here is how the firm's exporting experience enables its further internationalization through outward FDI. This can be considered as learning-by-exporting but it differs from the traditional effect captured through productivity or innovation effects (Love and Ganotakis, 2013). It is likely that in our case the FDI-directing effect of exporting experience occurs in two ways. One is a direct effect from transforming exporting experience into a firm-specific advantage necessary for conducting outward FDI, and the other is exerted indirectly through enhancing firm productivity and innovation, which will eventually boost firm-specific advantage to the extent required for the firm to go abroad.

Unlike the "Go Global" strategy China adopted after 2000, the export-led industrial strategy for growth has, from the start, been rooted in the country's economic transition and has the aim of promoting FDI as a complement to trade. Firms that have sufficient experience in exporting are more likely to detect the opportunities to further internationalize through outward FDI and are better able to seize them. This is a complex process in which firms develop market knowledge, decide on their foreign market commitments, and identify and develop opportunities. The process is therefore consistent with the internationalization process models (and their expansions) that explain the interplay between learning, commitment building, and business network development (Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977, 2006, 2009).

In these models, firms gain knowledge of foreign markets through the gradual learning process of internationalization. The process starts with the firm gaining experience in the domestic market before they turn their attention to the foreign markets. They establish their first foreign operations in "less foreign" countries (in terms of psychic distance) before moving into countries that are "more foreign".

Similarly, they rely first on traditional exports before gradually adopting more intensive and demanding operation modes, such as sales subsidiaries and direct investments (Bernini et al., 2016).

This is broadly in line with the organization learning literature that explains how emerging market multinationals expand their market reach through a process of learning-by-doing (Rui et al., 2016). Hence, we go beyond considering exporting as a dichotomous choice and account for heterogeneous learning outcomes from exporting activities, taking on board the learning-by-exporting literature that documents the heterogeneity in the knowledge accumulated from the exporting destinations (Love and Ganotakis, 2013).

Specifically, we consider the varied opportunities of a broad concept of learning-by-exporting for OFDI attached to the market reach and quality of learning from a firm's exporting activities. Exporting allows firms to access valuable information about product preferences, technological expertise, and competition in foreign markets (Clerides et al., 1998). Firms also collect information on market preferences, government policies, and institutional systems (Pradhan, 2004), and are able to establish networks in foreign markets that facilitate FDI (Mathews, 2006). Indeed, the accumulation of knowledge about consumer preferences, how different markets operate, and the local institutional configuration is important for firms that are consciously deciding whether and how to enter foreign markets; such decision making requires them to weigh up their own capabilities and the expected degree of competitiveness in the foreign markets. This has been termed "conscious self-selection" by Alvarez and Lopez (2005). Having experience of a variety of markets offers firms a learning opportunity that does not occur when they export to a single destination, and the reward for this extra effort is considerable productivity growth (Yashiro and Hirano, 2009).

The upshot is that the reach of the exporting destinations determines the relevance and quality of the knowledge acquired from exporting experience, thereby impacting on the management decision to invest in foreign markets in a context in which firms anticipate they can compete and make profits. The more exposed a firm is to international markets, the more opportunities it may identify. These will

improve a firm's readiness to develop its own internationalization strategy, and increase the likelihood of the strategy being implemented.

Hypothesis 2a: Private Chinese firms that export to multiple locations are more likely to conduct outward FDI.

In addition to the reach of foreign markets, the locations of the export markets matter. This is because the quality of learning experience gained from different exporting markets is variable. High-income economies could provide a better knowledge pool and wider learning opportunities for exporters than the poorer and less demanding economies.

The correlation between the income level of a country and the sophistication of its production (Spatafora et al., 2012) or exports (Weldemicael, 2014) is well documented. Being able to access these markets by exporting to them helps firms to develop first-hand knowledge of market demand, networks, and the supply chain information that is crucial to detecting opportunities for investment. This experience is particularly valuable because participating and upgrading along the chains requires not only manufacturing skills but also a solid business environment, which can be lacking in developing countries (UNCTAD, 2013).

Hence, the sophistication level of the export destination determines how much exporters might learn from their forays into the international markets. Exporters are more likely to reap benefits from serving the more demanding advanced economies than the poorer ones. Overall, the existing evidence indicates that exporting to more advanced economies can enhance the productivity of exporters. This paper extends this suggestion by testing how export destinations shape the probability of exporters expanding into FDI. Exporting to a variety of destinations also helps exporters acquire complementary knowledge of foreign markets that can enable them to overcome their foreignness and assist with the practicalities of conducting FDI.

Hypothesis 2b: Chinese private firms that export to advanced economies are more likely to conduct outward FDI.

2.3 Technological competence and knowledge-seeking FDI

Next, we delve into the factors that influence a firm's capability to conduct FDI for specific purposes. Although knowledge-seeking is desirable for technological late-comers, not every emerging market multinational can do this since a firm must have prior knowledge of technological fields and its internal capacity if it is to internalize the knowledge sourced from abroad. Bhaumik et al. (2016) argue that this is essentially a virtuous circle, with knowledge-seeking FDI augmenting the idiosyncratic firm-specific advantages possessed by an emerging market multinational, and enabling the firm to develop technological competences that match those of the western multinationals. While country-specific advantages may play a role here, the most important consideration is the quantity of resources required to facilitate FDI undertaken for different motives. In this study we distinguish between knowledge-seeking, market-seeking, natural resources-seeking, and efficiency-seeking FDI. Existing literature on emerging market multinationals (for a review, see Carney et al., 2019) would suggest that the dominant form of FDI by emerging market multinationals is knowledge-seeking rather than technology-exploiting. Nevertheless, FDI by Chinese private firms can be motivated by the complete range of strategic objectives that typically characterizes FDI from western developed countries.

Factors that can influence firms' capacity to conduct different types of FDI motives are highlighted by the literature. For instance, Hollenstein (2005) finds that knowledge-seeking FDI is driven by ownership advantages in the form of R&D investment and the human resources of the parent firms, but that such advantages are not required for conducting FDI that only involves distribution or production activities. More generally, while firms conduct knowledge-seeking FDI in order to acquire the relevant technological assets, physical assets, or human resources to enhance their ownership advantages (Bhaumik et al., 2016), this is a strategy that is both costly and potentially risky, given that the returns to innovation are by their nature uncertain. We seek to extend the traditional analysis of emerging market multinationals' knowledge-seeking FDI by considering a wider basket of firm-

specific advantages and country-specific advantages. We argue that technology leadership is a key driver of effective knowledge-seeking FDI (Drifffield et al., 2016) but that also, as Li and Fleury (2020) note, the nature of this is often overlooked in the context of emerging market firms.

Hypothesis 3: Technology leadership in the form of patenting is positively associated with knowledge-seeking FDI by private Chinese multinationals.

2.4 Financial performance and knowledge-seeking FDI

Although emerging market multinationals are motivated to seek knowledge in developed countries, this is difficult and risky (Luo and Tung, 2007). Some studies have stressed other ownership advantages in the form of financial liquidity; this supports technology acquisition because being cash-rich enables firms to increase their tolerance of risk during internationalization (Meyer and Xia, 2012).² Evidence of this tends to be derived from the high-profile acquisitions of high-technology firms in developed countries by their emerging market counterparts, such as Tata's acquisition of Jaguar Land-Rover and Lenovo's acquisition of IBM's personal computer business.³

Large and profitable firms with abundant cash flow have a greater capability to internationalize (Bhaumik et al., 2010). Buckley et al. (2008) mention that Chinese multinationals investing in R&D activities in the advanced countries need significant financial and technical internal resources for such knowledge-seeking. The fact that financial performance can play a significant role in determining knowledge-seeking FDI from China has to do with the country's banking systems that traditionally have a strong bias in favor of state-owned firms. It is safer for banks to lend to state borrowers than to private applicants because the government will use fiscal resources to guarantee that the loans are paid off if state-backed borrowers fall into financial difficulties. This is in addition to the information asymmetry that makes it riskier for banks to lend to private companies than to state-owned organizations (Cheng and Wu, 2019). Consequently, private firms in China have less likely than state firms to obtain bank finance. Internal finance is therefore crucial to their internationalization, particularly if they plan on conducting risky knowledge-seeking activities via FDI. The combination

of these factors means that having a strong financial performance is crucial to firms conducting knowledge-seeking FDI.

Hypothesis 4: Financial performance at home is positively associated with knowledge-seeking FDI by private Chinese multinationals.

2.5 Idiosyncratic firm-specific advantage

Our final hypothesis explores the idiosyncratic nature of firm-specific advantages in the context of Chinese FDI. Those who seek to argue that no new theory is needed to explore or explain Chinese FDI point to the investment development path, and argue that Chinese FDI is a feature of increased globalization (see Dunning et al., 2008 for an example). These views contend that the distinction between firm-specific advantages and country-specific advantages becomes redundant, and the “push” by the government becomes the driving force. We argue this is an over-simplification.

China has a “Go Global” national strategy but this does not apply to all firms equally. Not only have private firms only been permitted to conduct outward FDI since 2003 (Luo and Tung, 2007), the government still plays an important role in decision making, especially in terms of strategic asset-seeking FDI (Guo et al., 2016). The result of this is that state-owned firms have more opportunities to access foreign reserves and long-term loans from state-owned banks. Not only do they benefit from special funding to support FDI, they also enjoy a raft of perquisites such as simplified administration procedures, more generous tax write-offs, and lower insurance rates (Shapiro et al., 2018). In contrast, private firms in China are not so advantaged. We argue that in addition to the conventionally understood firm-specific advantages, these firms must possess other firm-specific advantages if they are to be competitive in the global market. In this study we examine this assertion in the context of the construction sectors.

One way of doing this, again in the spirit of testing the applicability of the existing theories, is to adopt the approach suggested by Ramamurti (2012). He argues that one can apply existing theory if this is done with a nuanced understanding of how emerging market multinationals have developed

firm-specific advantages to facilitate internationalization; this in turn requires an understanding of what these firm-specific advantages might be. The existing literature (see for example, Cuervo-Cazurra and Genc, 2008; Cuervo-Cazurra, 2012) describes these in terms of the purchase of advanced technologies combined with sufficient capacity and flexibility to be able to operate in the least developed countries. However, we argue that more detailed analysis linked to sector characteristics is required. It is not the purpose of this paper to explore signaling theory in detail (for a review, see Bergh et al., 2014), although this is most commonly applied in international business to strategic alliances (Reuer and Ragozzino, 2014) or cross listing (Peng and Su, 2014). However, the fundamental argument of these literatures is that the ability to signal quality to partners is a crucial element for internationalization, which is even more important for emerging market firms.

For Chinese firms, the ability to meet international standards and acquire specific certification is considered a key signal of a firm's ability to invest abroad. This is particularly important for the construction sectors because many nations require firms to adopt environment protection measures; these pressurize foreign firms to improve performance and abide by the required standards. Activities in the construction sectors often involve land clearing and the use of concrete and other materials that can generate waste; if not controlled properly, these activities can cause land deterioration and contaminate air and the water table (Zutshi and Creed, 2015). Meeting international standards is crucial for firms wishing to win new projects or establish their brand in international markets, given that doing so demonstrates a high level of compliance when bidding for international contracts (Turk, 2009). Additional benefits also include gaining trust from customers and establishing networks with sub-contractors in international markets, which in turn could facilitate international project contracting (Campos et al., 2016).

Hypothesis 5: The ability to demonstrate adherence to international standards is a key firm-specific advantage for private Chinese firms to conduct outward FDI.

3. Data

The empirical work draws upon panel data compiled from the National Survey of Above-scale Private Firms in China, collected and maintained by the All-China Federation of Industry and Commerce (the supervisory agency of private sector firms in China), thus ensuring comparability and quality. This survey covers private companies with a total operating income of more than 300 million yuan in the specified year (about 45 million \$US). Through long-term continuous investigation and research on large-scale private enterprises, the survey aims to provide a basis for analyzing the development trend of the private economy and provides a reference for local party committees and governments from which they can analyze the development of the local private economy and formulate private economic development policies. It is mandatory for large-scaled private firms to complete the survey online each March, providing information on the previous year from 1st January to 31st December. The average response rate of the survey is between 85-98% annually.¹

To the best of our knowledge, this is the first time this dataset has been employed to investigate outward FDI from private Chinese firms. This unique dataset is appropriate for our study for the following reasons. First, the survey collects comprehensive information about firms, including their characteristics, operations, performance, innovation, and internationalization behavior. Much of this data is rarely available at firm-level. Second, only private firms are included in the survey, which is important in helping us eliminate the political factors that may shape firms' internationalization strategies.⁴ It is reasonable to assume that, compared with large state-owned firms, private firms tend to operate and allocate resources according to market principles rather than political goals. Third, the data are of high quality since the survey is regularly conducted by the All-China Federation of Industry and Commerce. The information contained in the data allows for differentiation between FDI motives (knowledge-seeking, market-seeking, and resource-seeking), which is rare in large-scale firm-level

¹ For more information, see Appendix 1.

studies. The data is enriched with export destination information and outward FDI destinations, enabling links to be made between firms' exporting experience and FDI. Hence, the information in the data about firms' outward FDI is highly valuable for studying the internationalization behavior of the private sector. The survey covers 11 manufacturing industries and 10 service industries in every one of China's 31 provinces and, due to the availability of data, this study employs the waves of 2005, 2006 and 2009 for statistical analysis.⁵

Subject to the standard data cleaning process, our final data matrix contains 2,829 firm-year observations. Table 1 presents the variables, definitions, and summary statistics. On average, the surveyed firms are around 18 years old and have nearly 1,300 employees.⁶ They are also, on average, technologically intensive, with over 50% reporting the grant of patents registered in China. Of these private firms, 37.5% were privatized from firms that were previously collectively owned, state-owned, or township-owned, and the rest were established by private owners. Around 17.5% of the sampled firms conduct market-seeking FDI.

 INSERT TABLE 1 HERE

Hypotheses Testing

Our benchmark model predicts the choices of internationalization strategies for Hypothesis 1, as specified in a Multinomial Logit model:

$$\Pr(y_{it} = j | X_{1it}) = \frac{\exp(X_{1it-1} * \alpha_j)}{[1 + \sum_{h=1}^J \exp(X_{1it-1} * \alpha_h)]} \quad (j = 1, 2, 3, 4) \quad (1)$$

where y indicates the choices of the internationalization strategy of firm i at time t , with j being 1 if a firm serves only the domestic market with no internationalization activities, 2 if a firm exports but does not conduct FDI, 3 if a firm conducts FDI but does not export, and 4 if a firm simultaneously exports and conducts FDI. X_1 is a vector of explanatory variables that are expected to affect

internationalization. The model is estimated using a maximum likelihood function, with explanatory variables lagged by one year to mitigate potential endogeneity problems.

The key assumption of a Multinomial Logit model is the assumption of independence of irrelevant alternatives. This states that the relative likelihood of choosing A over B will not change because a third alternative is present. In our case, this means we need to ensure that the relative probability of a firm remaining in the domestic market versus becoming a multinational will not be affected if it simultaneously considers the additional and alternative decision of exporting versus FDI. We design an exhaustive set of options that help ensure independence of irrelevant alternatives is met. We employ the Small-Hsiao test and find no violation of the assumption of independence of irrelevant alternatives.⁷

Hypothesis 1 tests whether firm-specific advantages in the form of productivity or proprietary knowledge encourage internationalization. Productivity is measured by labor productivity proxied by revenue per employee in logarithm form (Wagner, 2007), and proprietary knowledge is captured in various ways. First, innovation is crucial to facilitating internationalization, as it creates competitive advantages that allow firms to successfully compete in foreign markets (Lachenmaier and Woßmann, 2006). Dummies that indicate whether or not a firm has innovation input (measured by whether it has in-house R&D activities) and innovation output (measured by a dummy indicating whether it has been granted a patent in China) are included in the model. Second, the way in which firms develop their technologies reflects their technology-related firm-specific advantages. Dummy variables are employed to proxy if the key technology adopted by a firm is developed through its internal efforts, by collaboration with external partners, or solely through purchase from external sources. Third, the existing technologies employed can reflect a firm's current technological capacity among its competitors. Firms with better technological resources are more likely to create superior products and may be motivated to increase the returns on innovation by going abroad (Kylaheiko et al., 2011).⁸ Dummies are included to capture if the firm perceives the technologies it employs as internationally

leading or nationally advanced. Although using variables that are based on firms' self-perceptions have the potential for bias, they do have the advantage of delivering that which cannot be measured by the standard innovation variables employed in the literature. Additionally, country-specific advantages are captured by government support, as proxied by government technology development subsidies per employee (Luo et al., 2010).

Hypotheses 2a and 2b test what prompts exporters to further internationalize via FDI. The sample for estimation consists of all exporters, some of which conduct FDI while others do not. We explore the effects of both the type and scope of the exporting destinations. A latent variable model of conducting outward FDI is specified and estimated by a Logit model:

$$FDI_{it}^* = \lambda_0 + \lambda_1 * Exp_destination_{it-1} + \lambda_2 * X_{1it-1} + \epsilon_{it}, \quad FDI_{it} = 1 \text{ if } FDI_{it}^* > 0 \quad (2)$$

where *Exp_destination* captures export destination (i.e., whether a firm has managed to export to one of the advanced countries in the world)⁹ and the scope of destinations (i.e., the number of export destinations) (Bastos and Silva, 2010).

For hypotheses 3 and 4, we specify a latent variable model for each type of FDI activity:

$$FDI_{kit}^* = \beta_0 + \beta_1 * Export_{it-1} + \beta_2 * X_{1it-1} + v_{it}, \quad FDI_{kit} = 1 \text{ if } FDI_{kit}^* > 0 \quad (3)$$

where *i* indexes firm, and *t* the year, while *k*=1, 2, ..., 5 refers to different FDI motives and activities: knowledge-seeking (i.e., has an R&D center); market-seeking (i.e., has a sales agency); resource-seeking (i.e., explores natural resources); efficiency-seeking (i.e., has manufacturing facilities in developing countries in Asia, Latin America, or Africa); and project construction contracting. *Export_{it-1}* equals 1 if a firm was an exporter in *t-1*, and 0 otherwise. This model is estimated by Logit that assumes the error term has a standard logistic distribution.

Hypothesis 3 tests whether financial performance measured by return on assets (Fryges and Wagner, 2010) encourages knowledge-seeking FDI. Hypothesis 4 tests whether technological leadership in the form of having a patent granted in China (Lachenmaier and Woßmann, 2006) facilitates knowledge-seeking FDI.

Hypothesis 5 tests whether or not it is important for emerging market firms to show adherence to international standards as one of the key firm-specific advantages for internationalizing. The construction industry provides an excellent testing ground to understand the importance of firm-specific advantages in the context of China. It is well known that overseas construction is an important element of China's internationalization, forming part of not only the country's business strategy but also its political agenda. The sector is likely to be even more outward-looking in the future, with increasing investments pouring out under the banner of the Belt and Road Initiative (Jackson and Shepotylo, 2020). The question then is whether such arguments should form part of a theoretical treatment of FDI (thus challenging the status quo from a theoretical perspective), or if they can instead nuance the empirical model to account for what may be considered to be a unique perspective. While it is unarguable that the Chinese government has exhorted its firms to internationalize, and indeed one may argue that its internationalization of the construction sector is part of its policy to seek greater diplomatic influence, there remains the question of which firms go on to internationalize (Liu et al., 2017).

Adherence to international standards is proxied by whether or not a firm has an ISO 9000 or ISO 14000 certification. Firms' ability to adhere to international standards is an advantage in internationalization because it leads to the adoption of production approaches that are relatively similar to those of their foreign competitors; this helps them overcome their liability of foreignness (Javorcik and Sawada, 2018).

In all the models, X_1 is a vector of the explanatory variables expected to affect internationalization. In the context of China, privatization is expected to increase sales and earning ability (Driffield and Du, 2007). We therefore include a privatization dummy variable that equals 1 if a private firm was previously state-owned/an urban-collective/a township enterprise, and 0 if it was launched as a private concern.

Control variables include firm size measured by the number of employees in logarithm form, and age. Older and larger firms are on average more innovative (Atkeson and Kehoe, 2005). Region and industry dummies are included in all estimations to control for any time-invariant heterogeneity related to regional and industrial characteristics that may homogeneously affect firms within each group. Year dummies are included to control for changes in any macroeconomic conditions, national regulations, or policies.

4. Findings

Hypothesis 1

Table 2 reports odds ratios based on the Multinomial Logit model estimation of equation (1). A larger than 1 odds ratio means that an increase in the explanatory variable will increase the probability of the outcome variable being 1 (i.e., adopting an internationalization strategy); conversely, an odds ratio of less than 1 means that an increase in the explanatory variable will decrease the likelihood of the outcome variable being 1.

The results relating to hypothesis 1 suggest that, just as for western multinationals, the internationalization of Chinese private firms is indeed driven by firm-specific ownership advantages. Firm-specific advantages in the form of proprietary knowledge increase the likelihood of internationalization, and this holds true for both innovation input (i.e., in-house R&D) and innovation output (i.e., owning patents granted in China). The likelihood of conducting both exporting and FDI for firms that have a patent grant is 2.675 times that of firms with no patent grants, *ceteris paribus*.¹⁰ Additionally, firms that possess internationally advanced technologies are more likely to conduct FDI. As for the firm-specific advantages in the form of productivity, a 1% increase in labor productivity increases the likelihood of exporting and FDI by nearly 20% (i.e., odds ratio 1.183), holding other factors constant. What is also clear is that firms whose key technologies have been derived by purchasing them from external sources rather than through their own efforts or via collaboration with other partners are less likely to go abroad (odds ratio 0.468). In comparison, the country-specific

advantages captured by government subsidy only marginally increase the likelihood of conducting FDI (only significant at 10% level). This strongly supports hypothesis 1.

Looking at other explanatory variables, privatized firms that were state-owned, urban-collectives, or township enterprises are less likely to invest abroad compared with those that were originally launched as private firms (odds ratio 0.494). Larger firms are more likely to internationalize than smaller firms.

INSERT TABLE 2 HERE

Hypothesis 2

Our next hypothesis tests what makes exporters go on to internationalize via FDI. Focusing on the importance of the export destination, the dependent variable in Table 3 equals 1 if a firm both exports and does FDI simultaneously in year t , and 0 if it only exports in year t . Odds ratios are reported based on Logit model estimations from equation (2).

Column (1) in Table 3 shows that the probability of conducting FDI is higher if a firm, *ceteris paribus*, serves multiple exporting destinations, supporting hypothesis 2a. Column (2) shows that if a firm manages to export to one of the advanced countries in the world, its likelihood of conducting FDI will increase by 26.4% (i.e., odds ratio 1.264) compared with those who, *ceteris paribus*, do not, thereby supporting hypothesis 2b.

Other explanatory variables are consistent with the results in Table 2. More productive exporters are more likely to conduct FDI. The dummy variable “buy from external sources” suggests that if an exporter purchases its key technologies from external sources rather than developing them internally or through collaboration with external partners, it is less likely to conduct FDI compared with other exporters that rely on their own or collaborative efforts to generate technological advances. Government technology subsidies only marginally promote FDI. Again, privatized exporters are less

likely to conduct FDI than firms that were originally established by private ownership, with the variable “privatized” having an odds ratio of less than 1.

INSERT TABLE 3 HERE

Hypothesis 3 and 4

Hypotheses 3 and 4 test factors that distinguish knowledge-seeking FDI from other FDI motivations. The sample consists of all FDI firms. The different motives are the dependent variables in the different columns. Column (1) in Table 4 shows that firms that conduct knowledge-seeking FDI are driven by financial performance (proxied by profitability) and technology leadership (measured by the grant of a patent in China) compared with other FDI firms; hence supporting hypotheses 3 and 4, respectively. Indeed, being granted a patent in China will increase the likelihood of a firm conducting knowledge-seeking FDI by 2.089 times compared with firms that do not have any patent grants, *ceteris paribus*. Private firms therefore need strong financial support and sufficient technological capabilities if they are to seek knowledge abroad.

Hypothesis 5 explores the importance of industry standards to internationalization. Here, we explore a unique feature of our data with regard to the construction sector. Having ISO 14000 certification is crucial to conducting project contracting for construction FDI (odds ratio 2.463), and this is not trivial to achieve. When considering the idiosyncratic nature of firm-specific advantages in the context of emerging market multinationals, this is therefore a vital construct when explaining which firms internationalize. It highlights the need to consider the nature of firm-specific advantages in a wider context when exploring emerging market FDI.

Regarding other motives, being an exporter significantly improves the likelihood of conducting market-seeking FDI. Natural resource-seeking FDI needs high labor productivity, as does efficiency-seeking FDI. A firm must have a fairly high level of efficiency at home if it is going to try to improve on its efficiency by establishing manufacturing facilities in other developing countries. This may

indicate that Chinese firms could leverage their home-grown expertise in efficient production management in their subsidiaries abroad.

INSERT TABLE 4 HERE

5. Discussion

By focusing on the private sector firms in China, what we find so far stands in contrast with the literature built upon the analyses of firms of state ownership. We demonstrate the importance of firm-specific advantages in explaining the internationalization of private firms, which are gradually taking center stage in Chinese outward investment. We argue that in order to conduct FDI, Chinese firms need to consider three issues in terms of the creation and exploitation of firm-specific advantages: efficiency, technology leadership, and the ability to overcome the liability of foreignness. Further, we argue that Chinese firms' internationalization via FDI is supported by this triad of firm-specific advantages in a way that is suggested by the traditional literature.

Even within the cohort of Chinese firms, variation in production efficiency remains an important driver for outward FDI, affirming the importance of internal competences and challenging the orthodoxy of the dominance of state intervention (Wei et al., 2014). Similarly, a firm's proprietary knowledge matters unequivocally. Given our finding that firms that seek to acquire key technology solely from external sources are significantly less likely to conduct FDI, it is clear that firms need to develop technologies internally if they are to invest abroad, whether this is unilaterally or through collaboration.

This, however, does not mean that the existing literature has all the tools to predict Chinese private FDI. We show that some key firm-specific advantages are context-specific. A good example is the achievement of international standards and specific certification as a key signal of quality and credibility, which enhances the ability to invest abroad. Although gaining such certification is an expensive and time-consuming process, it can also be considered as a way for these firms to overcome

the liability of foreignness by conduct business on similar terms to those of local firms in the host market (Zaheer, 1995).

The final context-specific and idiosyncratic characteristic of Chinese private firms, and one that sets them apart from their state-owned counterparts, is the reliance on internal finance. Under the relatively underdeveloped financial system, private sector firms face challenges in obtaining sufficient external finance (Liang et al., 2015). Without the “helping hand” of the government, financial constraints largely limit the abilities of private Chinese firms to acquire advanced technologies abroad via technology-seeking FDI. While the deep pockets of state-owned firms can underwrite speculative investment abroad, private Chinese firms tend to be risk-averse (Ramasamy et al., 2012). A failure to separate out and investigate the private sector will obscure the importance of firm-specific advantages for these emerging market multinationals.

These findings supplement studies that use aggregate-level factors such as country, industry or institutional factors (Li et al., 2018) to explain the internationalization of Chinese firms, and the most recent literature that delves into the home country’s impacts (Cuervo-Cazurra et al., 2018). Although these studies generate important insights into the home and host country conditions that facilitate internationalization, they cannot explain heterogeneous firm-level internationalization decisions within a homogenous context.

Moving on to the importance of FDI motivation, we are able to show that firms that conduct knowledge-seeking FDI need to possess technological competences that enable them to identify, assimilate, and absorb knowledge and new technologies from host markets; this sets this FDI motive apart from the other types of FDI. In particular, our findings highlight the importance of financial capability and technological competence. In contrast, market-seeking FDI by Chinese business is driven by global competitiveness, captured by capability to export. This suggests that it is the ability of an individual firm to harness country-specific advantages and leverage them in the international markets that drives market-seeking FDI. In other words, firm-specific advantages do not come from a

particular patent, intangible asset, or superior product, as per the initial formulations of firm-specific advantages; rather, they derive from the firm's ability to harness a basket of resources and operationalize them in new markets. In addition, we find interesting evidence of learning-by-exporting. All export destinations do not equally factor into an FDI decision. Specifically, exporting to advanced countries, such as those in the European Union bloc and North America, improves the probability of further internationalizing via FDI. Similarly, knowledge gained from exporting to a variety of foreign markets can help such exporters conduct FDI by establishing contact with different buyers and competitors, and developing strategies that are better suited to the host country's characteristics (Gaur et al., 2014). Therefore, exporting to more countries is likely to allow firms to obtain advanced technologies and increase their productivity in a more competitive environment with stricter regulations; these improvements are in addition to the benefits that accrue from increasing economies of scale. It is this that sets apart the emerging market firms that conduct market-seeking FDI from the much larger cohort of emerging market firms that do not.

6. Conclusions

This study contributes to the debate on whether the existing theories, which were developed through the study of western multinationals, can adequately explain private Chinese multinationals. Using a unique panel data covering private firms in China, we draw four conclusions. First, we maintain that the current approach of comparing multinationals from emerging countries with those from the developed countries is not fit for purpose. Theories and frameworks seeking to explain the internationalization of emerging market firms have generally been developed through comparisons of the firm-specific advantages of emerging market firms with those of their developed-country counterparts. Hence, the prevailing view that Chinese multinationals "internationalize without ownership advantages" i.e., they lack firm-specific advantages. This gives rise to an overemphasis on the explanatory power of country-specific advantages. We show that traditional paradigms can explain Chinese multinationals in terms of their firm-specific advantages. However, the roles that firm-specific

advantages play in the internationalization process are context-specific and a lack of nuance in how they have been examined means that they have been poorly understood in the literature. A more fruitful approach to deepening our understanding of Chinese multinationals is to compare them with other emerging market firms that do not invest abroad. Specifically, private Chinese multinationals may lack state-of-the-art technologies in comparison to their counterparts in developed countries, but they tend to possess traditional firm-specific advantages relative to their domestic peers (such as higher productivity, innovation, and technology leadership) that enable them to go abroad in a way that is akin to how the western multinationals do so. Further, FDI motivated by different objectives requires different types of firm-specific advantages. The existing literature on Chinese FDI underplays the heterogeneity that exists in FDI motivation, and therefore underestimates the importance of different firm-specific advantages. For example, the traditional literature concerning internationalization by emerging market firms highlights the importance of efficiency through country-specific advantage. Indeed we show here that this is important for resource-seeking and efficiency-seeking FDI. In contrast, technology leadership is more important for knowledge-seeking FDI, and export experience for market-seeking FDI. Together, these findings strengthen our argument that one needs to understand what firm-specific advantages mean in the context of emerging countries such as China.

Third, the experience gained from exporting to certain destinations assists Chinese firms to conduct FDI. Having advanced countries as export destinations is more likely to provide opportunities for learning-by-exporting in terms of product design, technologies, and competitive advantages; these assets will help firms overcome their liability of foreignness. The ability to compete effectively and to coordinate resources internationally via exporting is an important element of the firm-specific advantages of Chinese multinationals.

Overall, there is a real need to study the internationalization behavior of private Chinese firms since they have features, strategies, and motives that more closely resemble the characteristics of the internationalizing firms from developed countries than those of the state-owned firms at home, even

when such firms are also internationalizing. However, this assertion can be further nuanced in terms of developing the theory of Chinese multinationals. Our results demonstrate a link between success at home (possibly linked to profitability through economies of scale) and FDI. They also highlight the need for technology leadership in order to carry out knowledge-seeking FDI. As such, it is innovation at home rather than exporting abroad that is the more important driver of knowledge-seeking FDI by private Chinese multinationals.

The practical implication of our research, alongside the reiterated importance of productivity and proprietary knowledge as firm-specific advantages, is that gaining experience in exporting to targeted market destinations and aligning products to international standards can help firms expand their global production networks. Hence, market-seeking firms will benefit from having clear strategies for expanding their market destinations and utilizing their learning-by-exporting experience. Knowledge-seekers, on the other hand, must have strong financial and technology leadership if they are to explore the pathways that lead to acquiring new knowledge abroad.

Our research is limited by the fact that we cannot observe the outward FDI destinations of Chinese multinationals or the entry mode of outward FDI in host countries, but this could be a potential area for future research. Another limitation lies in the unavailability of a longer period of panel data for our sample of private Chinese multinationals. Finally, we suggest that future research could examine the extent to which Chinese multinationals can accumulate knowledge and enhance their firm-specific advantages and performance via the knowledge-seeking FDI that boosts the performance of parent firms.

Table 1: Variable Definitions and Summary Statistics

Variable	Definition	Mean	Std. Dev.
Performance			
Labor productivity	Revenue per employee in logarithm form	4.371	1.146
ROA	Return on total assets: net profit/total assets	0.067	0.063
Technological Ownership Advantages			
Certification – ISO9000	1 if has ISO9000 certification, 0 otherwise	0.844	0.363
Certification – ISO14000	1 if has ISO14000 certification, 0 otherwise	0.472	0.499
Has patents	1 if granted a patent(s) in China, 0 otherwise	0.535	0.499
In-house R&D	1 if conducts in-house R&D, 0 otherwise	0.738	0.440
Key Technology Source			
Internal efforts	1 if key technology source is from independent internal efforts, 0 otherwise	0.602	0.490
Collaboration	1 if key technology source is only from collaboration with external partners without independent internal efforts, 0 otherwise	0.067	0.250
Buy from external sources	1 if key technology only comes from purchasing from external sources without any internal efforts or collaboration with external partners to develop key technologies, 0 otherwise	0.069	0.253
Technology level			
International leading	1 if technology is internationally leading, 0 otherwise	0.045	0.207
National advanced	1 if technology is domestically advanced in China, 0 otherwise	0.534	0.499
Resources			
Gov. technology subsidy	Government technology development subsidies per employee	0.070	0.204
Privatized	1 if has gone through ownership change from state-owned, urban-collective, or township enterprise to private firm, 0 if it was originally established as a private firm	0.375	0.484
Export destinations			
Export to advanced countries	1 if exports to advanced countries, 0 otherwise	0.397	0.489
Number of destinations	Number of exporting destinations	2.064	2.243
FDI motivation			
Knowledge-seeking	1 if has FDI in R&D center, 0 otherwise	0.037	0.189
Market-seeking	1 if has FDI in sales agency, 0 otherwise	0.175	0.380
Resource-seeking	1 if has FDI in natural resources exploitation, 0 otherwise	0.019	0.136
Efficiency-seeking	1 if has FDI in manufacturing facilities in developing countries in Asia, Africa or Latin America, 0 otherwise	0.044	0.206
Contracting for construction	1 if has FDI in international contracting for construction, 0 otherwise	0.026	0.161
Control variables			
Size	Logarithm of employees	7.158	1.362
Age	Firm age	16.478	11.397
Observations	2,829		

Table 2: Firm-specific Advantages and Internationalization

	(1)	(2)	(3)
	Export only	FDI only	Export & FDI
Performance			
Labor productivity	0.912 (0.061)	1.195 (0.146)	1.183** (0.091)
ROA	0.406 (0.332)	6.355 (9.752)	1.845 (1.760)
Technological Ownership Advantages			
Certification – ISO9000	1.530*** (0.214)	1.311 (0.389)	1.271 (0.231)
Certification – ISO14000	1.298** (0.157)	1.297 (0.322)	1.823*** (0.252)
Patent (0/1)	2.388*** (0.297)	2.180*** (0.563)	2.675*** (0.383)
In-house R&D	2.032*** (0.268)	1.358 (0.364)	4.864*** (0.972)
Key Technology Source			
Internal efforts	1.159 (0.158)	1.162 (0.340)	1.346* (0.224)
Collaboration	1.476* (0.317)	0.777 (0.405)	1.258 (0.341)
Buy from external sources	0.860 (0.176)	0.842 (0.388)	0.468** (0.140)
Technology Level			
International leading	1.974** (0.683)	3.391** (1.787)	2.192** (0.801)
National advanced	1.044 (0.119)	0.964 (0.235)	0.766** (0.103)
Resources			
Gov. technology subsidy	0.954 (0.288)	2.335* (1.115)	1.460 (0.472)
Privatized	0.980 (0.113)	0.494*** (0.130)	0.641*** (0.089)
Control variables			
Size	1.270*** (0.077)	1.712*** (0.188)	2.068*** (0.141)
Age	0.992* (0.005)	1.005 (0.010)	0.995 (0.006)
Regional dummies	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Log likelihood	-2669.680		
Small-Hsiao tests of independence of irrelevant alternatives assumption: chi2; df; P>chi2	40.835; 42; 0.522	45.771; 42; 0.318	36.904; 42; 0.694
Observations	2829		

Notes: (1) Odds ratios from Multinomial Logit Model estimation of equation (1) are reported. Odds ratio = $[\text{odds}(p|X = x_0 + 1)] / [\text{odds}(p|X = x_0)] = \text{Exponentiate}(\log(\text{odds}(p|X = x_0 + 1))) / \text{Exponentiate}(\log(\text{odds}(p|X = x_0))) = \text{Exponentiate}(\alpha)$. Standard error of odds ratio = $\text{exponentiate}(\alpha) * \text{standard error}(\alpha)$. A larger than 1 odds ratio means that an increase in the explanatory variable will increase the probability of the outcome variable being 1; conversely, a less than 1 odds ratio means that an increase in the explanatory variable will decrease the likelihood of the outcome variable being 1. (2) All explanatory variables are lagged one-year; industry and year dummies are included. (3) Base group is firms that only serve domestic firms and do not have any international activities. (4) Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Table 3: Export Experience and Outward FDI

	(1)	(2)
Export destinations		
Number of export destinations	1.066**	
	(0.032)	
Export to advanced countries		1.264**
		(0.151)
Performance		
Labor productivity	1.208***	1.216***
	(0.088)	(0.089)
ROA	2.947	2.819
	(2.767)	(2.647)
Technological Ownership Advantages		
Certification – ISO9000	0.929	0.913
	(0.182)	(0.180)
Certification – ISO14000	1.402***	1.416***
	(0.169)	(0.170)
Patent (0/1)	1.031	1.038
	(0.136)	(0.136)
In-house R&D	2.116***	2.150***
	(0.446)	(0.453)
Key Technology Source		
Internal efforts	1.118	1.130
	(0.183)	(0.185)
Collaboration	0.862	0.866
	(0.220)	(0.221)
Buy from external sources	0.475**	0.471**
	(0.151)	(0.150)
Technology Level		
International leading	1.143	1.141
	(0.298)	(0.297)
National advanced	0.736**	0.735**
	(0.090)	(0.089)
Resources		
Gov. technology subsidy	1.610*	1.646*
	(0.434)	(0.444)
Privatized	0.685***	0.683***
	(0.087)	(0.086)
Control variables		
Size	1.625***	1.634***
	(0.101)	(0.101)
Age	1.004	1.004
	(0.005)	(0.005)
Regional dummies	Yes	Yes
Industry dummies	Yes	Yes
Year dummies	Yes	Yes
Log likelihood	-927.525	-927.92
Observations	1551	1551

Notes: (1) Both models are estimated using Logit models where the dependent variable is 1 if a firm does exporting and FDI simultaneously, and 0 if it only exports. (2) All explanatory variables are lagged one-year; industry and year dummies are included. (3) The significance of all the variables is calculated based on the direct coefficients and standard errors generated directly from the Logit estimation. Odds ratios and their standard errors (s.e.) reported in the table are calculated following the formula specified under Table 2. (4) Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Table 4: Firm-specific Advantages and Different Types of Outward FDI

	(1)	(2)	(3)	(4)	(5)
	Knowledge-seeking: Dependent variable (DV) = 1 if R&D center	Market-seeking: DV = 1 if sales agency	Resource-seeking: DV = 1 if natural resources exploration	Efficiency-seeking: DV = 1 if manufacturing in developing countries	DV = 1 if project contracting for construction
Exporter (0/1)	0.544* (0.180)	6.211*** (1.581)	0.646 (0.232)	1.203 (0.433)	0.103*** (0.040)
Performance					
Labor productivity	1.070 (0.158)	0.824 (0.104)	1.490** (0.266)	1.777*** (0.268)	1.090 (0.214)
ROA	58.35** (107.800)	0.263 (0.440)	0.320 (0.837)	8.182 (15.650)	0.008 (0.028)
Technological Ownership Advantages					
Certification – ISO9000	1.436 (0.719)	0.796 (0.298)	0.951 (0.450)	0.640 (0.287)	4.118* (2.976)
Certification – ISO14000	1.146 (0.284)	0.791 (0.183)	0.668 (0.229)	0.739 (0.196)	2.463** (0.921)
Patent (0/1)	2.089** (0.607)	0.996 (0.241)	0.876 (0.308)	0.938 (0.266)	1.356 (0.545)
In-house R&D	1.547 (1.001)	1.133 (0.431)	0.928 (0.478)	1.814 (1.051)	1.062 (0.603)
Key Technology Source					
Internal efforts	1.684 (0.700)	1.342 (0.412)	1.088 (0.500)	5.265*** (2.514)	0.618 (0.294)
Collaboration	1.670 (0.970)	1.574 (0.786)	1.397 (0.935)	0.484 (0.541)	1.086 (0.794)
Buy from external	NA NA	1.007 (0.590)	1.967 (1.457)	3.600* (2.581)	1.054 (0.951)
Technology Level					
International leading	1.692 (0.692)	0.695 (0.285)	1.426 (0.813)	1.510 (0.633)	0.192 (0.209)
National advanced	1.234 (0.314)	1.120 (0.262)	0.730 (0.254)	0.639* (0.173)	0.767 (0.280)
Resources					
Gov. technology subsidy	1.212 (0.661)	1.911 (1.081)	0.710 (0.522)	0.422 (0.315)	0.209 (0.298)
Privatized	0.706 (0.202)	0.790 (0.192)	0.884 (0.339)	1.035 (0.297)	0.832 (0.324)
Control variables					
Size	1.536*** (0.187)	0.756*** (0.080)	0.973 (0.147)	1.934*** (0.247)	1.493** (0.249)
Age	0.969** (0.012)	0.992 (0.009)	0.999 (0.014)	1.000 (0.011)	1.029** (0.014)
Regional dummies	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes
Log likelihood	249.569	-299.119	-166.676	-230.337	-137.873
Observations	620	644	644	710	641

Note: (1) All columns are estimated using Logit models where the dependent variable for each column equals to 1 if a firm conducts a particular type of FDI activity, and 0 if it conducts other types of FDI. (2) The significance of all the variables is calculated based on the direct coefficients and standard errors generated directly from Logit estimations. Odds ratios and their standard errors (s.e.) reported in the table are calculated following the formula specified under Table 2. (3) Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

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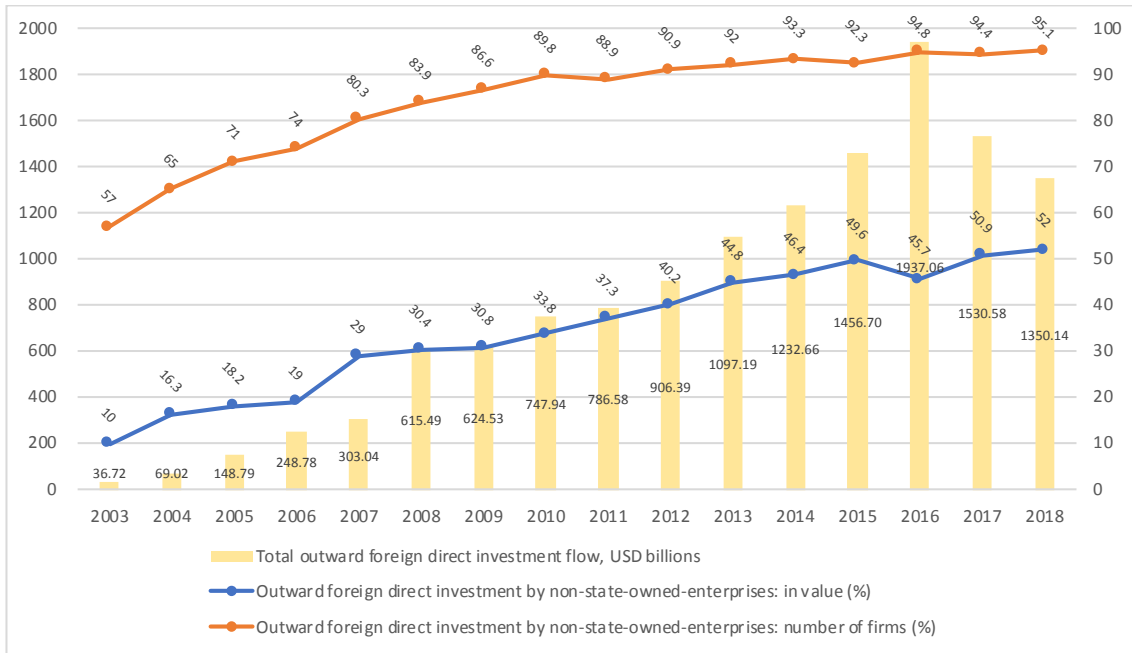
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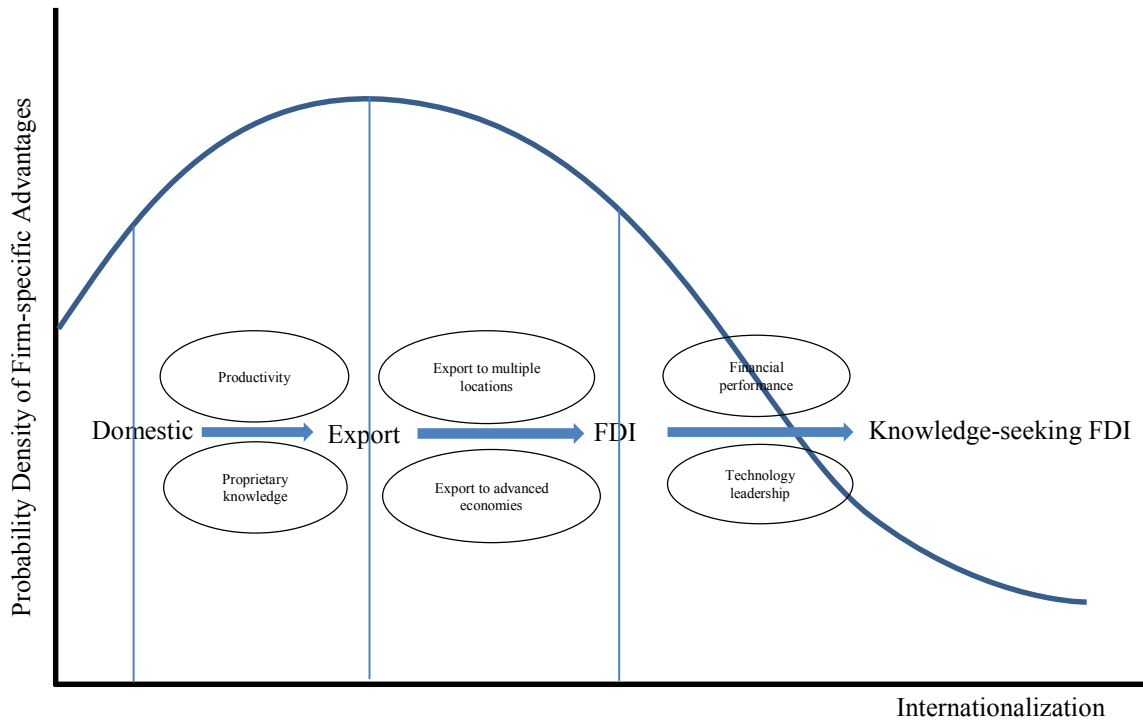
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Figure 1: Chinese OFDI worldwide by private sector multinationals, 2003-2018



Source: Statistical Bulletin of China’s Outward Foreign Direct Investment, 2003-2018, issued by Ministry of Commerce of People’s Republic of China (MOFCOM), National Bureau of Statistics of People’s Republic of China, State Administration of Foreign Exchange. Authors’ calculation.

Figure 2: Firm-specific advantages and internationalization of emerging market firms



Appendix 1

The empirical analysis of this paper draws upon panel data compiled from the National Survey of Above-scale Private Firms in China, collected and maintained by the All-China Federation of Industry and Commerce (the supervisory agency of private sector firms in China), thus ensuring comparability and quality. Participation in the survey is mandatory for the relevant firms. All-China Federation of Industry and Commerce Surveys cover private companies with a total operating income of more than 300 million yuan (about 45 million \$US) in most years, limited liability companies, and joint stock limited companies controlled by non-public sectors of the economy. More information about the survey can be found from All-China Federation of Industry and Commerce website: <http://www.chinachamber.org.cn/>.

Data used to construct exporting destination variables:

We use a dummy variable to indicate whether or not a firm exports to one of the richest countries in a given year. The richest countries are defined as countries that have GDP per capita within the top 10 percentile of all the countries, based on the real value of the US dollar in 2005. These countries are Australia, Austria, Belgium, Canada, Denmark, Finland, Ireland, Japan, Kuwait, the Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom, and the United States. The data used to calculate GDP per capita are from “HistoricalRealGDPValues.xls”, “HistoricalPopulationValues.xls” and “HistoricalRealExchangeRatesValues.xls”, all of which are available from United States Department of Agriculture: <http://www.ers.usda.gov/data-products/international-macroeconomic-data-set.aspx>).

Appendix 2 Correlation Matrix

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
(1)	Domestic market only	1																									
(2)	Export only	-0.66	1																								
(3)	Outward FDI only	-0.16	-0.15	1																							
(4)	Both export and outward FDI	-0.38	-0.35	-0.09	1																						
(5)	Knowledge-seeking	-0.15	-0.14	0.16	0.31	1																					
(6)	Market-seeking	-0.37	-0.34	0.15	0.85	0.21	1																				
(7)	Resource-seeking	-0.11	-0.10	0.13	0.20	0.07	0.04	1																			
(8)	Efficiency-seeking	-0.15	-0.13	0.12	0.30	0.09	0.19	0.11	1																		
(9)	Contracting for construction	-0.11	-0.10	0.37	0.10	0.04	0.04	-0.02	0.04	1																	
(10)	Labor productivity	0.20	-0.14	0.00	-0.08	-0.02	-0.07	0.02	-0.04	-0.07	1																
(11)	ROA	-0.04	-0.03	0.04	0.07	0.07	0.06	0.03	0.02	-0.03	-0.01	1															
(12)	Certification - ISO9000	-0.30	0.17	0.02	0.15	0.06	0.14	0.04	0.05	0.05	-0.20	0.07	1														
(13)	Certification - ISO14000	-0.23	0.04	0.05	0.23	0.12	0.19	0.04	0.05	0.09	-0.14	0.07	0.31	1													
(14)	Has patents	-0.39	0.20	0.07	0.22	0.10	0.22	0.03	0.12	0.06	-0.14	0.12	0.25	0.24	1												
(15)	In-house R&D	-0.38	0.20	0.02	0.23	0.10	0.20	0.06	0.09	0.01	-0.15	0.04	0.33	0.21	0.44	1											
(16)	Internal efforts	-0.32	0.17	0.03	0.19	0.13	0.16	0.05	0.11	0.01	-0.13	0.07	0.21	0.16	0.43	0.50	1										
(17)	Collaboration	-0.02	0.00	-0.01	0.03	0.01	0.02	0.01	-0.01	0.01	-0.02	0.03	0.05	0.04	-0.01	0.06	-0.30	1									
(18)	Buy from external sources	0.08	-0.03	-0.02	-0.06	-0.06	-0.05	0.02	-0.04	-0.04	0.02	-0.05	-0.01	-0.04	-0.14	0.00	-0.34	-0.08	1								
(19)	International leading	-0.08	0.01	0.03	0.08	0.12	0.06	0.04	0.04	-0.02	-0.01	0.04	0.06	0.10	0.09	0.07	0.03	0.01	0.04	1							
(20)	National advanced	-0.18	0.16	-0.01	0.03	0.01	0.06	-0.04	0.00	-0.01	-0.08	0.03	0.15	0.11	0.20	0.36	0.26	0.06	0.05	-0.18	1						
(21)	Gov. technology subsidy	-0.10	0.02	0.05	0.09	0.03	0.09	-0.01	0.02	-0.02	0.09	0.11	0.06	0.08	0.26	0.18	0.20	0.01	-0.06	0.08	0.03	1					
(22)	Privatized	0.01	0.05	-0.03	-0.07	-0.04	-0.08	-0.05	-0.04	0.02	-0.08	0.00	0.05	0.02	0.00	0.02	-0.02	0.05	0.00	-0.04	0.01	0.03	1				
(23)	Export to advanced countries	-0.67	0.46	-0.15	0.36	0.12	0.29	0.04	0.05	0.00	-0.20	0.03	0.26	0.19	0.30	0.29	0.23	0.03	-0.09	0.07	0.13	0.04	0.02	1			
(24)	Number of destinations	-0.76	0.53	-0.17	0.40	0.12	0.31	0.01	0.09	0.01	-0.17	0.04	0.26	0.24	0.36	0.35	0.29	0.00	-0.07	0.08	0.16	0.09	0.01	0.71	1		
(25)	Size	-0.27	0.06	0.07	0.23	0.10	0.18	0.03	0.17	0.17	-0.66	0.05	0.24	0.29	0.20	0.21	0.17	0.03	0.01	0.07	0.08	-0.09	0.06	0.21	0.22	1	
(26)	Age	-0.08	0.04	0.04	0.04	-0.02	0.03	0.01	0.03	0.13	-0.17	0.03	0.17	0.13	0.11	0.12	0.10	0.02	-0.04	-0.02	0.06	0.03	0.32	0.08	0.07	0.24	1

¹ We thank the reviewer's suggestion for the development of the theoretical framework, which follows suggestions by Sutton and Staw (1995), DiMaggio (1995), and Corley and Gioia (2011).

² For example, according to recent reports, the four largest IT companies in India have total cash reserves in excess of USD 9 billion (<http://news.in.msn.com/business/indias-top-4-it-firms-build-rs-56000-crore-cash-chest-infosys-leads>). The "going out" strategy of a number of Chinese companies, many of which are state-owned, is similarly backed by a significant fraction of China's USD 3.4 trillion reserves (<http://www.bbc.co.uk/news/business-22567974>).

³ See Sauviant et al. (2010) for a discussion of emerging market investments and the concentration of outward FDI of ex-China BRICS firms in the USA and the EU.

⁴ Many recent studies that document outward FDI from China note that a large proportion of the firms investing overseas have close links to government and are frequently owned by the state (see, among others, Luo et al., 2010).

⁵ This is due to the availability of the data and completeness of the relevant variables. Although we have survey data from 2002, not all the variables employed in the empirical analysis are available for all years. Therefore, this paper draws on the data from 2005, 2006, and 2009 to conduct empirical analysis. Although this is not ideal, jumping over the financial crisis period to 2009 has some merit in that it allows us to observe the continuity of outward FDI from China over a globally challenging period. The smooth movement of the series under study underlies our assumption that we can treat the three waves as a panel. We take comfort from two signs that support this. First, according to the aggregate statistics, the FDI conducted by Chinese private firms over the period 2007-2008 seems to follow a natural continuity, increasing at a slightly slower rate to the 2009 level as illustrated in Figure 1. Second, we compare the statistics of key variables in our model, and find they are similar before and after 2008, except that in 2009, there is a higher proportion of firms claiming ISO 14000 certifications.

⁶ Calculated from Table 1 (\log of the number of employees=7.158): $e^{7.158} - 1$.

⁷ The independence of irrelevant alternatives assumption does not imply that the likelihood of choosing one option is independent of the other. Independence of irrelevant alternatives means that the relative probability of a firm choosing between two types of internationalization strategy options is independent of any additional alternatives in the choice set. For instance, the relative probability of a firm choosing exporting only or choosing FDI only is independent of the additional alternative of exporting while simultaneously conducting FDI. Therefore, there is no contradiction in our theoretical arguments that exports lead to outward foreign direct investment in hypothesis 2a and 2b.

⁸ Although using variables based on the self-perception of firms may incur potential bias, they do have the advantage of delivering that which cannot be measured by the standard innovation variables employed in the literature.

⁹ The richest countries are defined as the countries that have real GDP per capita within the top 10 percentile of all countries, based on the real value of the US dollar in 2005. These countries are Australia, Austria, Belgium, Canada, Denmark, Finland, Ireland, Japan, Kuwait, the Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom, and the United States.

¹⁰ This is the same as when a firm goes from having no patents to having patents; the odds of conducting exporting and FDI versus not internationalizing at all will increase by a factor of 4.633, holding all other variables constant.